

Serial No.: 09/616,214

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Art Unit: 2125

Amendments to the Drawings

Please add Figs. 7 and 8 attached hereto.

REMARKS

In response to the Office Action mailed July 27, 2004, the Applicants respectfully request reconsideration. Claims 1-106 were previously pending in this application, with claims 34-77 and 93-106 being withdrawn. By this amendment, Applicant is canceling claims 4, 6, 21, 32, 34-77 and 93-106 without prejudice or disclaimer. Claims 1, 7, 13-14, 17, 22, 31, 83 and 92 have been amended. New claims 107-128 have been added. As a result claims 1-3, 5, 7-20, 22-31, 33, 78-92 and 106-128 are pending for examination with claims 1, 17, 83, 92, 109, 115-117 and 121 being independent claims. No new matter has been added.

Summary of Telephone Conference with Examiner

During a telephone interview with the Applicants' attorney, it was confirmed that there were typographical errors on page 5, paragraph 8 and page 8, paragraph 9 of the Office Action mailed July 27, 2004. The Examiner indicated that page 5, paragraph 8 should read claims 86-92 rather than 86-91. Additionally, the Examiner indicated that page 8, paragraph 9 should read claims 86-92 rather than 86-91.

Preliminary Matters**Regarding the Information Disclosure Statement**

An IDS including the reference cited at page 1, line 22 of the specification is provided herewith.

Regarding the Drawings

The drawings have been objected to under 37 C.F.R. 1.83(a).

Drawings corresponding to the Method Claims

To overcome objections to the drawings under 37 C.F.R. 1.83(a) relating to features of method claims 20, 22, 25-28, 30, 32 and 33, new Figs. 7 and 8 have been added. The new drawings illustrate features of some of the claims as requested by the Examiner, and in all respects are fully supported by the specification and claims as originally filed. No new matter has been added.

New Fig. 7 is a flowchart illustrating one example of a method for preparing a lighting sequence according to an aspect of the present invention. At step 710, first information representative of a plurality of lighting effects is displayed. Support for such a step is provided, for example, in the Applicants' specification at page 11, line 32 et seq., and is embodied in Fig. 5 as palette 520. The palette shown in Fig. 5 includes a plurality of selectable lighting effects displayed on a user interface. At step 720, a first lighting effect is selected for a lighting sequence, from the plurality of lighting effects. Support for such a step is provided, for example, at page 12, line 6 et seq. where it is disclosed that a user may select an effect from palette 520, and the user may also select a desired time interval within a lighting sequence during which to execute the effect. At step 730, a first lighting unit is selected to execute the lighting effect. At page 12, line 6 et seq., it is disclosed that a user may select a lighting unit to execute a selected lighting effect; and at page 8, line 2 et seq. it is disclosed that an effect is selected for a first lighting unit. Further, as disclosed in original claim 5, the lighting unit may be an LED unit capable of emitting a range of colors. At step 740, the first lighting effect is visually represented on a region of a grid defined by the first unit. For example, such a step is disclosed at page 11, line 17 et seq. and illustrated in Fig. 5 where an effect to be executed by a lighting unit, comprising gradually varying the light output from the lighting unit, is displayed on a grid of a user interface. At step 750, one of the first lighting effect (discussed above with reference to step 720) and another of the plurality of lighting effects is selected, from among the plurality of displayed lighting effects, for execution by a second lighting unit. For example, a step of selecting a lighting effect for a second lighting unit is disclosed at page 8, line 3 et seq.

New Fig. 8 is a flow chart illustrating an example of a method of preparing a lighting sequence according to another aspect of the present invention. At step 810, first information representative of a plurality of lighting effects is displayed. As stated above with reference to Fig. 7, support for such a step is provided, for example, at page 11, line 32 et seq., and in Fig. 5 as embodied by palette 520. At step 820, a first lighting effect is selected for a lighting sequence, from the plurality of lighting effects. As stated above with reference to Fig. 7, support for such a step is provided, for example, at page 12, line 6 et seq., where it is disclosed that a user may select an effect from palette 520, and the user may also select a desired time interval within a lighting sequence, during which to execute the effect. At step 830, a first lighting unit is selected to execute the lighting effect. For example, the lighting unit may be an LED unit

capable of emitting a range of colors. As stated above with reference to Fig. 7, at page 12, line 6 et seq., it is disclosed that a user may select a lighting unit to execute a selected lighting effect, and at page 8, line 2 et seq., it is disclosed that an effect may be selected for a first lighting unit. Further, as disclosed in original claim 5, the lighting unit may be an LED unit capable of emitting a range of colors. At step 840, a second lighting effect is selected for the lighting sequence. Selection of a second lighting effect is disclosed, for example, at page 7, line 4 et seq., where it is also disclosed that the first and second lighting effects may overlap. At step 845, it is determined whether the first lighting effect and the second lighting effect overlap. If the first effect and the second effect do not overlap, at step 850, a transition effect may be selected for execution between the first effect and the second effect. If the first effect and the second effect do overlap, at step 860, a priority between the first effect and the second effect may be specified. Selection of priorities for overlapping effects is disclosed at page 7, line 10 et seq. At step 870, a motion of the first lighting unit also may be specified. Motion of lighting effects is disclosed, for example, at page 13, line 9, et seq. Such motions may include, for example, sliding, pivoting, rotating and tilting. At step 880, a brightness of the first lighting effect also may be specified. Specification of a brightness of an effect is disclosed, for example, on page 6, line 15 and 21.

In view of the foregoing, it may be readily appreciated that the claimed features at issue noted by the Examiner appear in Figs. 7 and 8 as follows.

An act of “selecting one of [an] at least one selected lighting effect and another lighting effect for execution by [a] second lighting unit,” as recited in claim 20, is shown in Fig. 7 at reference number 740. An act of “visually representing [an] at least one selected lighting effect on a region of [a] grid defined by [an] at least one lighting unit,” as recited in claim 22, is shown Fig. 7 at reference number 750. An act of “selecting a second lighting effect for [a] lighting sequence, based on [a] displayed first information,” as recited in claim 25, is shown in Fig. 8 at reference number 840. An act of “selecting a transition effect between [a] first lighting effect and [a] second lighting effect,” as recited in claim 26, is shown in Fig. 8 at reference number 850. An act of “determining a priority for multiple selected lighting effects,” as recited in claim 27, is shown in Fig. 8 at reference number 860. An act of “specifying a brightness for [an] at least one selected lighting effect,” as recited in claim 28, is shown in Fig. 8 at reference number 880. A method “wherein [an] act of selecting at least one lighting unit to execute [an] at least one selected lighting effect includes an act of selecting at least one LED lighting unit capable of

emitting light of any of a range of colors” as recited in claim 30, is shown in Fig. 8 at reference number 830.

Claim 32 has been canceled. Accordingly the objection to claim 32 is moot.

An act of “specifying a motion of [a] selected lighting unit,” as recited in claim 33, is shown in FIG. 8 at reference number 870.

Additionally, text corresponding to Figs. 7 and 8 has been added to the Brief Description of the Drawings and the Detailed Description.

Accordingly, objections under 37 C.F.R. 1.83(a) related to each of the above-identified method claims should be withdrawn.

The Apparatus Claims

Regarding the objections to the drawings under 37 C.F.R. 1.83(a) in view of features recited in claims 4, 12, 16, 78 and 82, the Applicants responds as follows.

Regarding the objections to apparatus claim 4, claim 4 has been canceled. Accordingly, the objections to claim 4 are moot.

Regarding claim 12, Fig. 5 illustrates a data entry box 525 for entering a priority for a first lighting effect which shares a temporal overlap with a second lighting effect. Accordingly, Fig. 5 illustrates a “sequence authoring interface … adapted to permit [a] user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect.”

Regarding claim 16, page 5, line 28 of the specification explains that, in an interface including stock effects (e.g., in palette 520 as illustrated in Fig. 5), the stock effects can be combined to form another effect. Accordingly, Fig. 5 illustrates “[a] sequence authoring interface … adapted to permit [a] user to design at least one user-composed lighting effect.” Further regarding claim 16, one example of “a display interface adapted to display information representative of [an] at least one user-composed lighting effect” is shown in Fig. 3. In fact, at page 10, lines 25-26 of Applicants’ specification, text corresponding to Fig. 3 states that “the interface 300 may be capable of reproducing a lighting sequence created by a user.”

Regarding claim 78, at page 12, line 6, referring to Fig. 5, the specification indicates that “to assign an effect to a lighting unit, a user may select an effect from the palette and select a region of the grid corresponding to the appropriate lighting unit or units and the desired time

interval for the effect.” Accordingly, a “sequence authoring interface … adapted to permit the user to select a start time for the at least one selected lighting effect and a stop time for the at least one selected lighting effect” is illustrated in FIG. 5.

Regarding claim 82, reference number 40 in Fig. 1 is indicated at page 5, line 15 of the specification as referring to lighting units which may be, for example, LEDs.

Accordingly, the objections under 37 C.F.R. 1.83(a) related to each of the above-identified apparatus claims should be withdrawn.

Rejection under 35 U.S.C. §112

The Office Action rejected claims 14 and 31 under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 14 and 31 have been amended to overcome these rejections.

Accordingly, withdrawal of the rejections of claims 14 and 31 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Rejections Under 35 U.S.C. §102(e) and §103

In sections 8 and 9 of the Office Action, independent claims 1, 17, 83 and 92 were each rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,466,234, to Pyle, et al. (hereinafter Pyle) and U.S. Patent No. 5,645,993, to Fleischmann (hereinafter Fleischmann).

Independent apparatus claims 1 and 83 have been amended to include subject matter recited in claim 6, and claim 6 has been canceled. Independent method claims 17 (which closely tracks the language of apparatus claim 1) and 92 (which closely tracks the language of apparatus claim 83) have been amended to include subject matter recited in dependent claim 21 (which closely tracks the language of claim 6), and claim 21 has been cancelled. Each of claims 1, 17, 83 and 93 has also been amended to clarify that a continuous time interval is represented along an axis of a grid.

In view of these amendments, the rejections of claims 1, 17, 83 and 92 under 35 U.S.C. §102(e) over Pyle and Fleischmann are moot. Accordingly, the Applicants discuss the patentability of independent claims 1, 17, 83 and 92 as amended herein by addressing the rejections of former dependent claims 6 and 21 as set forth in the Office Action.

Claim 1, as amended, recites “A system for preparing a lighting sequence, comprising [inter alia]: a display interface … adapted to display a grid, wherein the at least one lighting unit

is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis.”

Claim 17, as amended, recites “A method for preparing a lighting sequence capable of being executed by a controller, comprising [*inter alia*, an act] of … displaying a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis.”

Claim 83, as amended, recites “A system for preparing and executing at least one lighting sequence, comprising [*inter alia*]: a display interface … adapted to display a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis.”

Claim 92, as amended, recites “A method for preparing and executing at least one lighting sequence, comprising [*inter alia*, an act] of … displaying a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis.”

While the Applicants have amended claims 1, 17, 83 and 92, the Applicants do not necessarily concede that the stated bases for rejecting these claims as set forth in the Office action is proper, nor do the Applicants agree with the characterizations of the cited Pyle and Fleischmann references as set forth in the Office Action. Rather, the Applicants have amended the claims primarily to accelerate prosecution of the present application toward allowance, and reserve the right to file one or more related applications directed to the subject matter of the claims prior to the amendments herein.

With reference to the subject matter of original dependent claims 6 and 21, which is now included in the amended independent claims, claims 6-7 and 21-22 were rejected in section 14 on

page 16 of the Office Action under 35 U.S.C. §103(a) as allegedly being obvious over Pyle in view of U.S. Patent No. 5,986,414 to Bocchicchio (hereinafter Bocchicchio). Claims 6-7 and 21-22 also were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Fleischmann in view of Bocchicchio. The Applicants traverses these rejections.

The Office Action, on pages 16-17, concedes that both Pyle and Fleischmann fail to teach a system (or method) in which a grid is displayed with lighting units along one axis and time is represented along another axis, and lighting effects are visually represented on a region of the grid defined by the lighting unit. In fact, both Pyle and Fleischmann completely fail to disclose or suggest a system (or method) for preparing a lighting sequence, comprising *inter alia* a display interface adapted to display (or displaying) a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis.

However, the Office Action alleges that “Bocchicchio teaches analogous art, comprising displaying a grid with lighting units along one axis and time along another axis, and visually representing a lighting effect on a region of the grid defined by the light unit.” The Office Action then alleges that it would have been obvious to one of ordinary skill in the art to modify the teachings of Pyle or Fleischmann with those of Bocchicchio because “Bocchicchio teaches a flexible and configurable lighting system with a template for creating and editing a lighting program (col. 2, line 14 to col. 3, line 8 of Bocchicchio).” The Applicants disagree with the foregoing assertions, as set forth in detail below.

Since the Office Action concedes that both Pyle and Fleischmann fail to disclose or suggest all of the limitations of claims 1, 17, 83 and 92 as amended, the following discussion focuses primarily on Bocchicchio.

Bocchicchio is directed to a device for generating output trigger signals for firing one or more light sources in a machine vision processor (abstract). Bocchicchio discloses that the light sources are strobe lights (col. 4, lines 46-49). FIG. 4B of Bocchicchio, to which the text cited by the Office Action refers, illustrates a program template which specifies a series of ten sequences 452. Each sequence specifies triggers for one or more of illumination sources corresponding to

click boxes 454 (col. 6, lines 62-65). Upon the execution of a sequence, each of the light sources corresponding to a click box having an “X” therein is illuminated (col. 7, lines 42-53).

As Bocchiccio’s light sources are strobe lights, it should be appreciated that the illumination of a given light pursuant to an “X” in a click box essentially represents a momentary/instantaneous flash of light. In particular, nowhere in the reference does Bocchiccio disclose or suggest energizing a given light source for any appreciable length of time or implementing any particular “lighting effects” with a given light source, other than merely flashing light (i.e., turning the source quickly on and off) at a given instant of time for facilitating a machine vision process.

As set forth in MPEP § 2143, three criteria must be met in order to establish a *prima facie* case of obviousness: (I.) there must be some motivation, either in the cited references or in the knowledge generally available to one of ordinary skill in the art, to modify the references; (II.) the references must teach or suggest all of the claimed features; and (III.) there must be a reasonable expectation of success. The teaching or suggestion to modify the references, as well as the reasonable expectation of success, must both be found in the prior art and not based on Applicants’ disclosure.

The Applicants respectfully submit that claims 1, 17, 83 and 92 as amended are patentable over the combinations of Pyle and Bocchiccio or Fleischmann and Bocchiccio because at least the second obviousness criterion specified in MPEP §2143 is not met; namely Pyle, Fleischmann and Bocchiccio, alone or in any combination, fail to teach or suggest all of the features recited in each of the Applicants’ claims 1, 17, 83 and 92.

Firstly, as the Office Action acknowledges, both Pyle and Fleischmann fail to teach a system (or method) in which a grid is displayed with lighting units along one axis and time is represented along another axis, and visually representing a lighting effect on a region of the grid defined by the lighting unit; more specifically, neither Pyle nor Fleischmann discloses or suggests “a system (or method) for preparing a lighting sequence, comprising *inter alia* a display interface adapted to display (or for displaying) a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the

grid adjacent to the first position and parallel to the second axis,” as recited in amended claims 1, 17, 83 and 92.

Secondly, Bocchicchio similarly fails to disclose or suggest “a system (or method) for preparing a lighting sequence, comprising *inter alia* a display interface adapted to display (or for displaying) a grid, wherein the at least one lighting unit is represented at a first position along a first axis of the grid, wherein at least one continuous time interval is represented along a second axis of the grid, and wherein a representation of the at least one selected lighting effect during the at least one continuous time interval is displayed on the grid adjacent to the first position and parallel to the second axis,” as recited in amended claims 1, 17, 83 and 92. Instead, in Fig. 4B of Bocchicchio (the figure to which the text cited by the Office Action refers), the triggers for illuminating lighting units are designated, along the horizontal axis, by “X’s” corresponding to discrete (i.e., non-continuous) periods of time. Accordingly, none of Pyle, Fleischmann and Bocchicchio discloses or suggests a display or method of displaying as recited in claims 1, 17, 83 and 92. Thus, the combination of either Pyle and Bocchicchio or Fleischmann and Bocchicchio fails at least the second criterion for establishing *prima facie* obviousness according to MPEP §2143. Amended claims 1, 17, 83 and 92 therefore are patentable over both the combinations of Pyle and Bocchicchio and Fleischmann and Bocchicchio.

In view of the foregoing, and for the sake of brevity, the Applicants submit that it is not necessary to discuss the impropriety of combining Pyle and Bocchicchio or Fleischmann and Bocchicchio based on lack of motivation or lack of reasonable expectation of success according to the other obviousness criteria set forth in MPEP §2143. However, the Applicants reserve the right to argue that the combinations of Pyle and Bocchicchio and Fleischmann and Bocchicchio indeed are improper based on either or both of these criteria, if deemed necessary in the future.

Claims 2-5, 7-8, 10-16 and 78-82 (all of which depend from claim 1), claims 18-20, 22-23, 25-27, 29-33 and 87-91 (all of which depend from claim 17), and claims 84-86 (all of which depend from claim 83) are patentable over the combinations of Pyle and Bocchicchio, and Fleischmann and Bocchicchio for at least the same reasons as claim 1, 17 and 83, respectively. Claims 6 and 21 have been canceled and, therefore, the rejections of claims 6 and 21 are moot.

Accordingly, withdrawal of the rejections of claims 1-5, 7-8, 10-20, 22-23, 25-27, 29-33, 78-82 and 84-92 is respectfully requested.